

Original Research Article

Effect of warm footbath with vibration on arteriovenous fistula puncture-related pain in hemodialysis patients

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ABSTRACT

Background: Pain and stress of hemodialysis are experienced by more than 50% of patients who are suffering from renal disease; hence decreasing a part of these adverse effects can be effective on individual's long term coping with hemodialysis. The current study was done to determine the effect of warm footbath with vibration on arteriovenous fistula puncture-related pain in hemodialysis patients.

Methods: This clinical trial was conducted on 31 hemodialysis patients in 2014. The patients were selected by simple random sampling method and placed in one group. First, the pain intensity of all patients was measured in the six frequent hemodialysis sessions without any intervention (control method). After two weeks, the intervention of warm footbath with vibration was done on all patients and the pain intensity was measured for six frequent hemodialysis sessions (intervention method). The patients were received 40 ± 2 °C footbath with vibration by foot massage spa machine for ten minutes; then, fistula needles were placed and the pain intensity was assessed by using a numerical rating scale. Data were analyzed by ANOVA and T test.

Results: The study group had contained 20 males (64.5%), 11 females (35.5%), with an average age of 44.16 ± 14.85 and a range of 18 to 65 years old, which shows that the pain intensity of the warm footbath with vibration method was lower than the control method ($P < 0.05$).

Conclusions: Warm footbath with vibration can be used as an effective palliative method to reduce pain of hemodialysis patients.

Keywords: Fistula needle, Footbath, Pain, Vibration

INTRODUCTION

The end-stage renal disease is an irreversible degeneration of kidneys' function which can affect all age groups. Annually, more than 60,000 people would be died by kidney diseases all over the world.^{1,2} Statistics show that numbers of dialysis patients would be doubled per 10 years in U.S.³ Although Hemodialysis is known as the most common therapeutic line for those patients who are suffering from kidney disease in recent years, it is a

challenging process which causes socio-mental disorders.⁴ Experiencing some sort of pain is one of inconveniences reported by more than 50% of these patients.⁵

For a hemodialysis patient there is nothing more stressful than being exposed by big needles in the arteriovenous fistula site frequently; hence, most of these patients speak about the puncturing process as their most common difficulties.^{6,7} As sometimes more than one try to place